Third West Weekly Report
Shepherd, Michael
to:
Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)'
05/15/2012 05:16 PM
Hide Details
From: "Shepherd, Michael" <Michael.Shepherd@rockymountainpower.net>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbarnitz@utah.gov)'" <cbarnitz@utah.gov>

7 Attachments

Weekly Reports 05-07 to 05-11-12.pdf Third West Weekly Log 2012-19.pdf 235354-1.pdf 235424-1.pdf 235505-1.pdf

235584-1.pdf 235688-1.pdf

Joyce & Craig,

Attached are the reports for the week of May 7, 2012.

All air monitoring results came back negative.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
801.631.1310 Cell
801.220.2797 Fax
michael.shepherd@pacificorp.com

PACIFICORP

R & R ENVIRONMENTAL, INC.
ASBESTOS · LEAD · INDUSTRIAL HYGIENE

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 05/07/11

General

NA Work area Health and Safety Inspection

NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day

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NA Document required Respirator Training completion with Form H

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- NA Illness/Injury Report Form A
- NA Site-Specific Training Record Form C
- NA Hot Work Permit Form D
- NA Trench/Evacuation Permit Form E
- NA Combined Space Entry Permit From F
- ☑ Exclusion zone operations are practiced as instmcted.
  - ☑ Decontamination unit is working properly.
  - ☑ Workers are using decontamination unit as instmcted.
  - ☑ Workers use personal protective equipment properly.

☑ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.

☑ Review sign-in/sign-out log throughout and at the end of the workday.

☑ Secure the site at the end of the workday

Sampling

NA Soil Confirmation sampling for any newly excavated areas

☑ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone

NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal

NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- ☑ Electronically file photo files into the on-site database

- ☑ Complete Field Documentation
  - ☑ Field Sample Data Sheets (FSDS)
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- ☑ Label each sample media with a unique number
- ☑ Seal sample(s) in zip lock plastic bags
- ☑ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☑ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☑ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☑ Electronically file sample reports into on-site database

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station **Date:** 05/07/12

Location: 3rd West, 1st South, SLC **Job Number:**

Survey Conducted By: Justin Kargis **Title:**

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance ☐	Out of Compliance ☐	N/A ☐	Corrective Action Taken and Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance ☐	Out of Compliance ☐	N/A ☐	Corrective Action Taken and Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone not active today.

CVE finished digging out area for spread footers between switch gear and transformer in bay 2. This temporarily uncovers some native soil. The pile containing native material will be used to back fill and was covered with plastic.

Newman backfilled and compacted over retention envelope along south side of yard. They were encouraged to apply water to exposed native material throughout the yard due to windy and dry conditions.

CVE line crew worked on ground grid and grounding rods. Jones drilling was on site to drill through concrete slab about 10-12 feet under the surface for rod placement.. This drilling may have brought soil to the surface that lies under a concrete foundation.

CVE electricians continued working on control cable layout and connections.

Wasatch/south Wire were in the yard and on the west side of 4th west splicing transmission cable.

Weather was cool, dry and windy in the afternoon with temperatures around 70.

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3BB WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: **05/08/11**

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NA Document required Respirator Training completion with Form H

NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.

NA Confirm return of waste material manifest documents for each load with site manager.

NA Complete all CSHASP Forms (for applicable activities planned for that day)

- NA Illness/Injury Report Form A
- NA Site-Specific Training Record Form C
- NA Hot Work Permit Form D
- NA Trench/Evacuation Permit Form E
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- ☑ Exclusion zone operations are practiced as instructed.
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  - ☑ Workers are using decontamination unit as instructed.
  - ☑ Workers use personal protective equipment properly.

☑ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.

☑ Review sign-in/sign-out log throughout and at the end of the workday.

☑ Secure the site at the end of the workday

Sampling

NA Soil Confirmation sampling for any newly excavated areas

☑ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone

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NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

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Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
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1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	
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Comments:

Exclusion zone not active today.

Newman continued backfilling, compaction and placing yard rock under structure steel. They were encouraged by R&R to apply water to all areas of exposed native material.

CVE fabricators worked on forming spread footings between switch gear and transformer 2. This activity temporarily places them in close proximity to small amounts of native material.

CVE line crew continued working on ground grid and rods throughout section to be energized next week.

CVE electricians continued control cable layout and connections.

Jones drilling core-drilled two more holes for grounding rod.

Weather was warm, dry and breezy in the afternoon with temperatures in the high 70's.

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Comments:

Exclusion zone active once excavations began.

Newman dug holes for capacitor bank foundations in EZ. They suited up in PPE for this work. They then continued placing yard rock under structure. They sprayed water on the native soil stockpile in exclusion zone.

CVE line crew continued excavating for, placing and burying grid and platforms.

CVE fabricators continued working on forms for piers between switch gear and bay 2 transformer.

CVE electricians continued working on control cable placement and connections.

South wire and Wasatch electric continued 138 kV cable splicing.

Weather was warm and dry with light winds and temperatures near 80.

PACIFICORP

R & R ENVIRONMENTAL, INC.
ASBESTOS · LEAD · INDUSTRIAL HYGIENE

3RR WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: **05/10/11**

General

NA Work area Health and Safety Inspection

NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day

NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP

NA Site hazard and safety instruction for all first time employees, contractors or visitors

NA Complete Employee Meeting Record Form B (where applicable)

NA Document required Respirator Training completion with Form H

NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.

NA Confirm return of waste material manifest documents for each load with site manager.

NA Complete all CSHASP Forms (for applicable activities planned for that day)

- NA Illness/Injury Report Form A
- NA Site-Specific Training Record Form C
- NA Hot Work Permit Form D
- NA Trench/Evacuation Permit Form E
- NA Combined Space Entry Permit From F
- ☑ Exclusion zone operations are practiced as instructed.
  - ☑ Decontamination unit is working properly.
  - ☑ Workers are using decontamination unit as instructed.
  - ☑ Workers use personal protective equipment properly.

☑ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.

☑ Review sign-in/sign-out log throughout and at the end of the workday.

☑ Secure the site at the end of the workday

Sampling

NA Soil Confirmation sampling for any newly excavated areas

☑ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone

NA Personal Breathing Zone Monitoring on persomel conducting contaminated dust and soil removal

NA Digitally photograph each sample location and at any place field sampling persomel determined necessary

- ☑ Electronically file photo files into the on-site database

- ☑ Complete Field Documentation
  - ☑ Field Sample Data Sheets (FSDS)
  - ☑ Logbook
  - ☑ On-site computer database
- ☑ Label each sample media with a unique number
- ☑ Seal sample(s) in zip lock plastic bags
- ☑ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☑ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☑ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☑ Electronically file sample reports into on-site database

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station **Date:** 05/10/12

Location: 3rd West, 1st South, SLC **Job Number:**

Survey Conducted By: Justin Kargis **Title:**

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	

Standard	Title	In Compliance ☐	Out of Compliance ☐	N/A ☐	Corrective Action Taken and Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone inactive today.

Newman backfilled and compacted along south fence of yard. They also continued adding yard rock under structure steel.

CVE line crew continued with installation of ground grid.

CVE fabricators continued setting forms for piers near switch gear.

CVE electricians continued working on control connections.

South wire & Wasatch electric completed splicing of Gadsby line in vaults.

Weather was warm, sunny and dry. Windy in the afternoon with temperatures decreasing through the day to the low 70s.

PACIFICORP

R & R ENVIRONMENTAL, INC.
ASBESTOS · LEAD · INDUSTRIAL HYGIENE

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 05/11/11

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NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal

NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

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PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station **Date:** 05/11/12

Location: 3rd West, 1st South, SLC **Job Number:**

Survey Conducted By: Justin Kargis **Title:**

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
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1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	
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Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
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1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
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1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
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Standard	*Title*	In Compliance ☐	Out of Compliance ☐	N/A ☐	*Corrective Action Taken and Date*
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1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone inactive today.

Newman back filled and compacted around structure steel. They also continued adding yard rock around bay 2 and sprayed water on the stockpile of native material in the EZ.

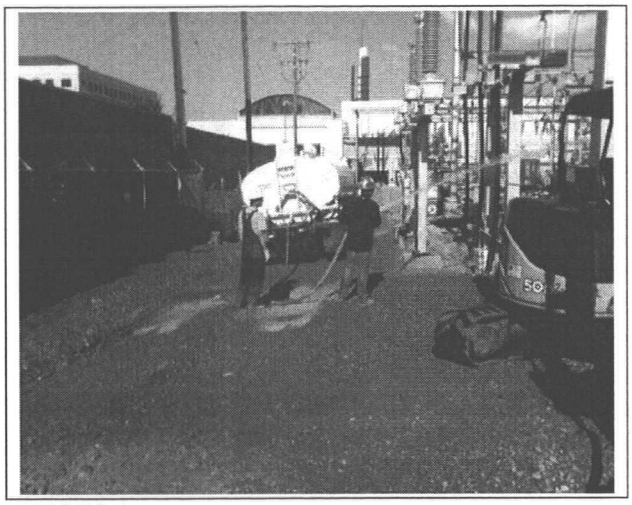
CVE fabricators poured concrete for structural piers between switch gear and bay 2 transformer. They also poured porches near circuit breaker pads.

CVE line crew not on site today - they started working 4 10 hour shifts this week.

CVE electricians continued control cable connections.

South wire and Wasatch electric continued working on transmission line splicing and connections.

Weather was warm, sunny and windy in the afternoon with no precipitation and temperatures in the mid 70's,



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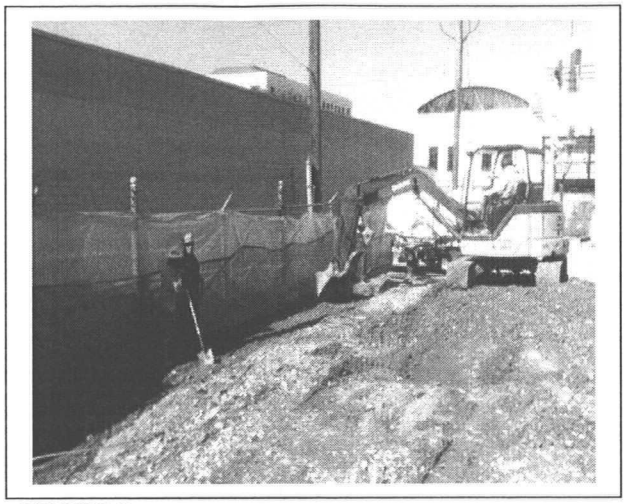

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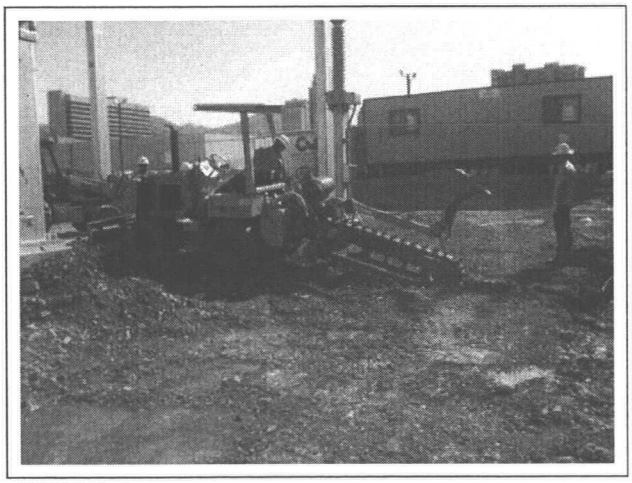

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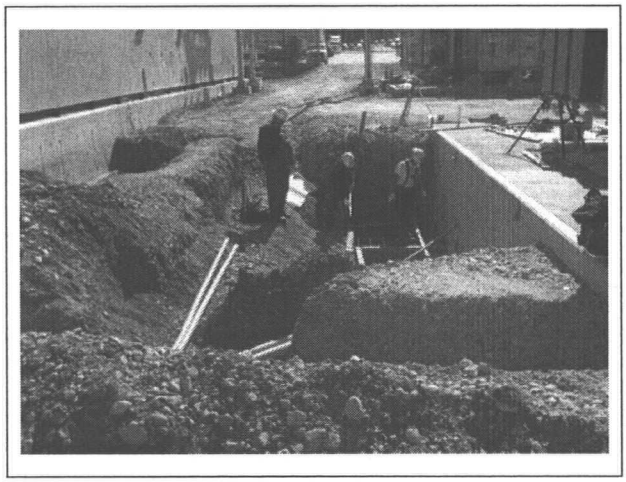


PHOTO 4

R & R Environmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

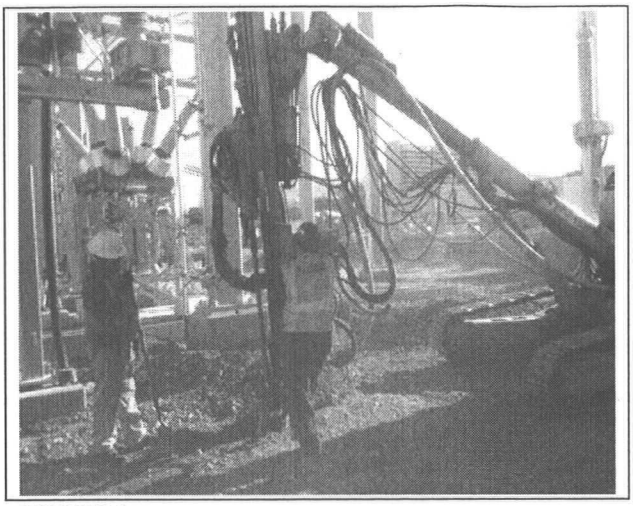
PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR
DRAWN BY: JMK	DATE 05/07/12	FILE:

SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah



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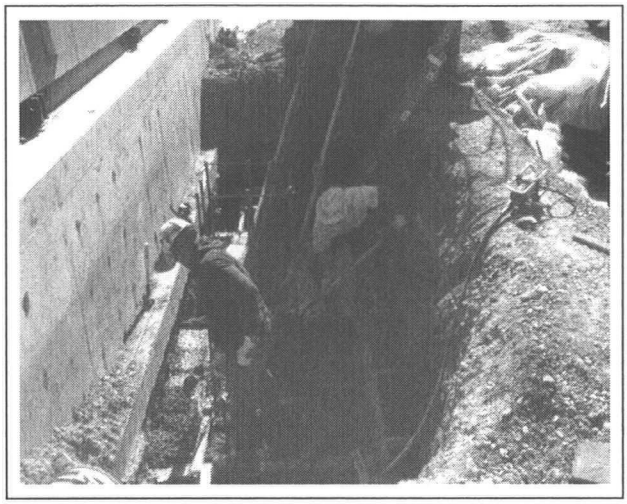

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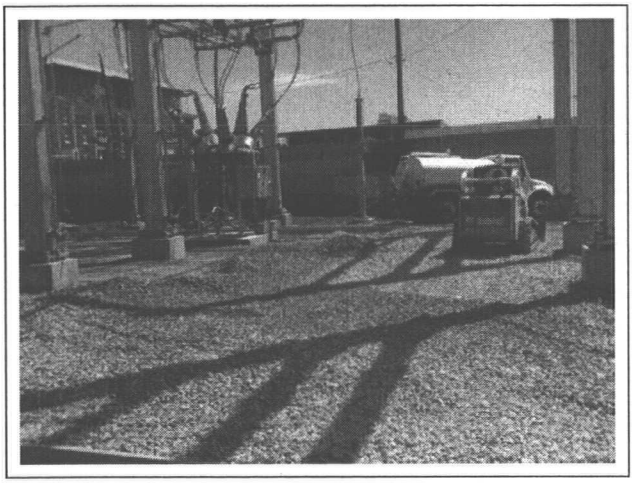

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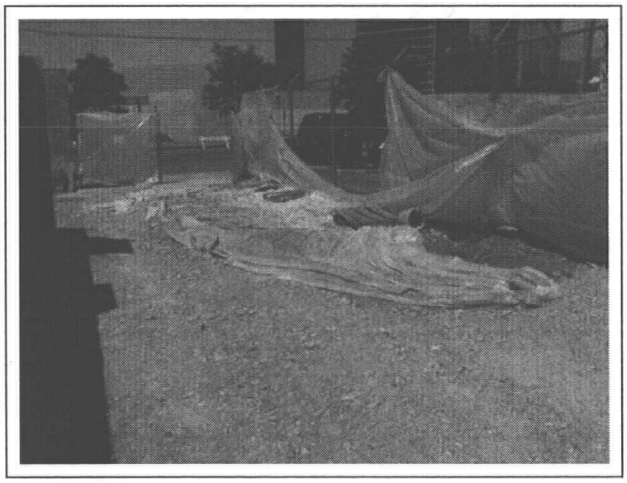

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DESIGNED BY:	SCALE:	REVIEWED BY: DCR
DRAWN BY: JMK	DATE 05/08/12	FILE:

SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

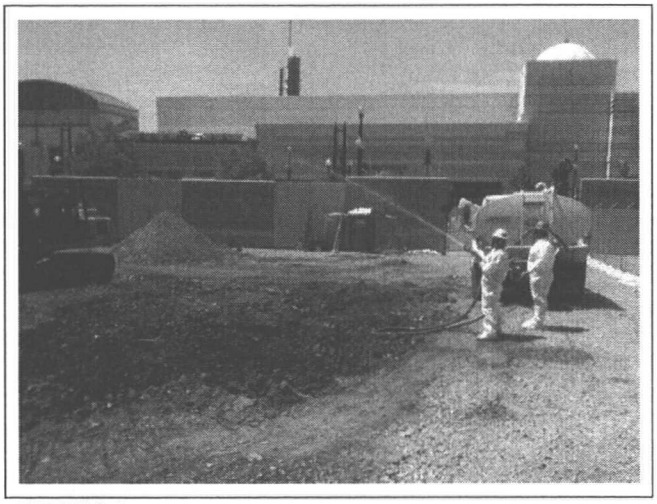
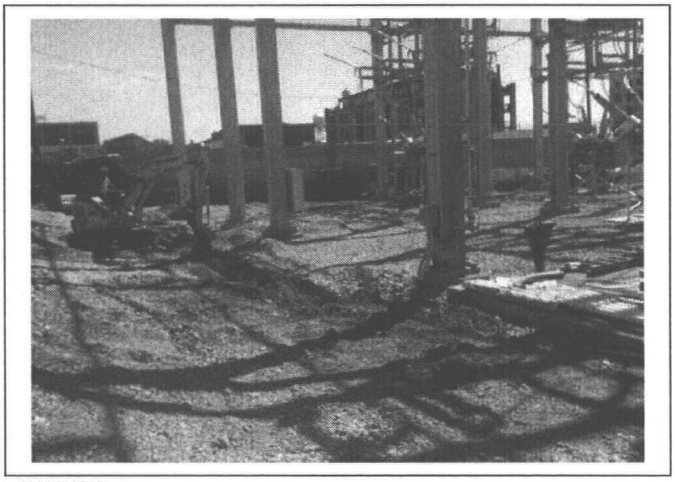


PHOTO 1

PHOTO 2

PHOTO 3



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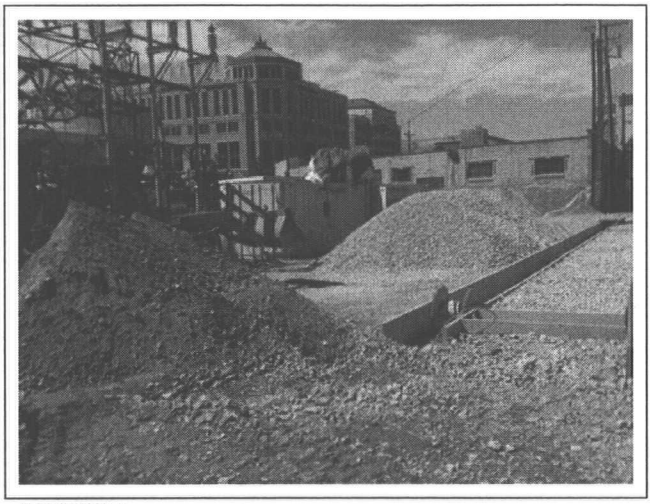
SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

PHOTO 1



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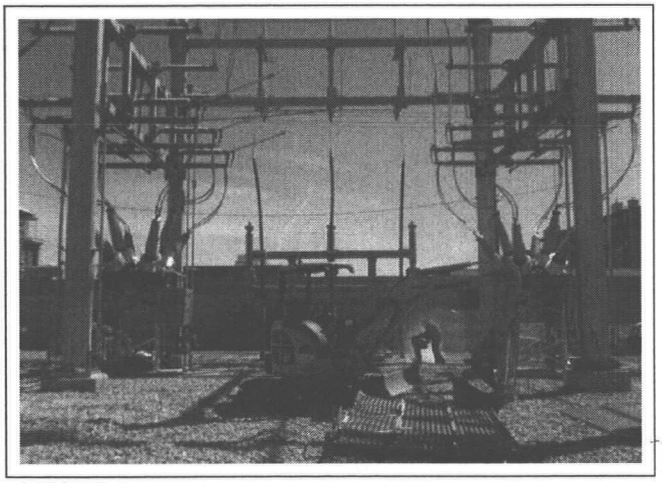

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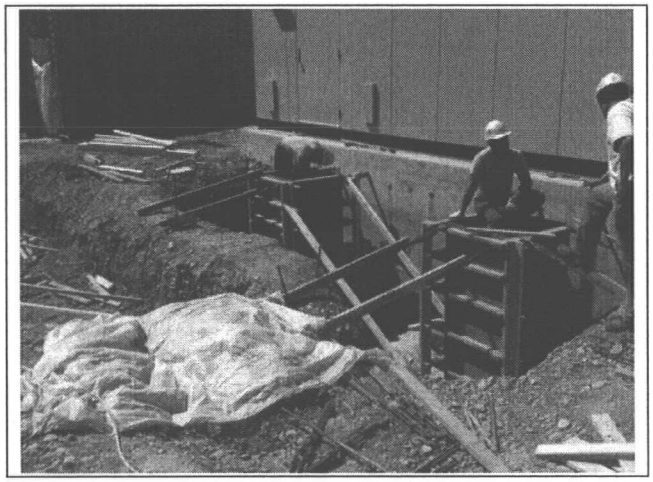

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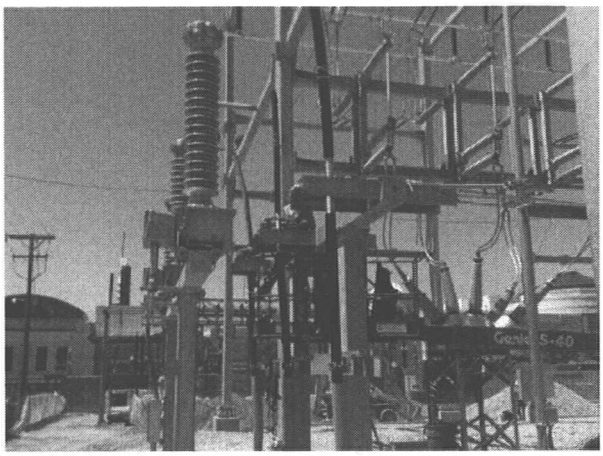

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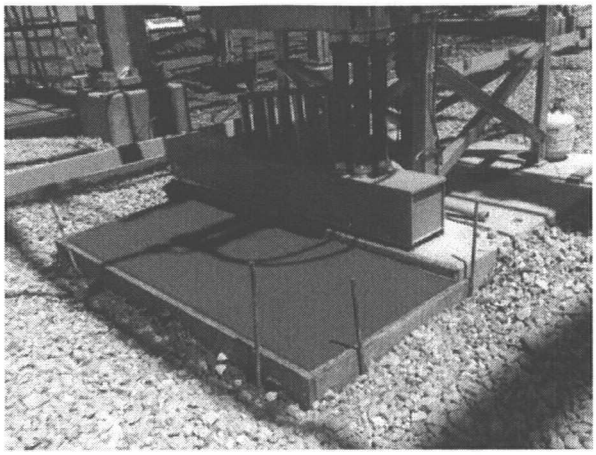

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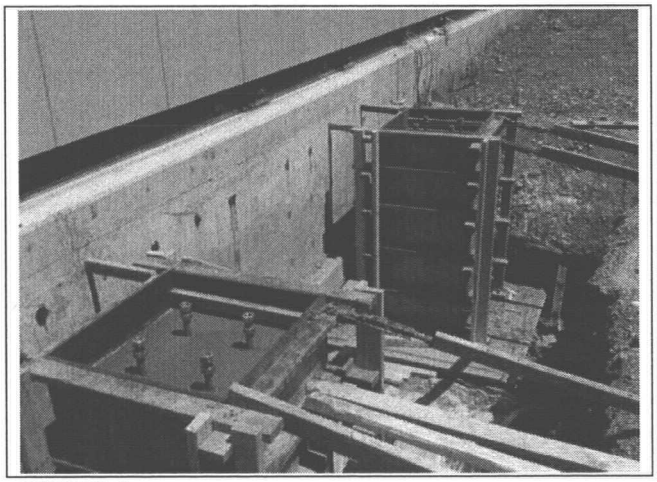

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DESIGNED BY:	SCALE:	REVIEWED BY: DCR
DRAWN BY: JMK	DATE 05/11/12	FILE:

SITE PHOTOGRAPHS

PACIFICORP
A MIDAMERICAN ENERGY HOLDINGS COMPANY

3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild	**DATE :**	Monday, May 7, 2012
PO & Work Order NO. :	3000078050 / 10035803	**MAIN CONTRACTOR :**	Cache Valley Electric

Crew Start Time:	7:00	**Crew Stop Time:**	17:15	**Tot Hrs mns:**	10:15
FCR Start Time:	6:57	**FCR Stop Time:**	17:20	**Tot Hrs mns:**	10:23

*Use military time format **00:00***

WEATHER CONDITIONS: Sunny - 51 degrees in AM, 68 degrees in PM

DESCRIPTION: (work performed, general comments, Instructions to contractor, # of crew members onsite.)

R&R set four monitors. CVE Fab Crew started forming up the fdn mats for the N fdns (4 ea.) north of xfmr #2. CVE Electrical Crew worked eight hours and backfilled the conduits running from xfmr #2 to the cable trench and pulling in wires. CVE Line Crew cleaned up scrap aluminum from the CB center bushing jumpers and installed grounding along the south fence line overe the top of the geogrid wall. Newman is placing the geotech wall (west 40') and placed ABC over the exposed ground grid installed by the. Southwire/Wasatch, completed the cutting and racking of the conductors in the vault for the Gadsby line. They will begin the splicing process on Tuesday morning. Main Wasatch crew will be gone for one week. CVE Line Crew = 6, CVE Fab Crew = 3, CVE Electrical Crew = 3, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Gus Montanez 0657
Dispatcher logout, name and time:	Barry Nielson 0524

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (3), forklift, 1 dumpster, office trailer, conex , exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex , water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Tuesday, May 8, 2012

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** Cache Valley Electric

Crew Start Time:	6:50	Crew Stop Time:	17:15	Tot Hrs mns:	10:25
FCR Start Time:	6:41	FCR Stop Time:	17:35	Tot Hrs mns:	10:54

*Use military time format **00:00***

WEATHER CONDITIONS: Sunny - 53 degrees in AM, 74 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set four monitors. CVE Fab Crew continued forming up the fdn mats for the N fdns (4 ea.) north of xfmr #2. Poured in AM. They worked on fonns for the circuit breaker porches and in the PM they started tying rebar for the stems for the N foundation. CVE Electrical Crew (1 man) worked eight hours tenninating cables in the switchgear from xfmr #2 . CVE Line Crew spent most of their day installing grounding along the south fencline and around xfmr #1. Jones returned today and drilled the last two holes through the concrete floor for the ground rods. Newman spent the day grading, compacting, and placing yard rock inside the cable trench area. They got about half way across the yard, starting at the west cable trench and moving east. Southwire/Wasatch started and completed splicing the first conductor (B Phase) in the vault (bottom phase) for the Gadsby line. Main Wasatch crew will be gone for one week. CVE Line Crew = 6, CVE Fab Crew = 3, CVE Electrical Crew = 1, Jones = 2, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Gus Montanez 0641
Dispatcher logout, name and time:	Gus Montanez 1739

DISCREPANCIES:	IMMEDIATE CORRECTIVE ACTION TAKEN:

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (3), forklift, 1 dumpster, office trailer, conex , exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex , water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	Reported by:	Time:

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild	**DATE :**	Wednesday, May 9, 2012
PO & Work Order NO. :	3000078050 / 10035803	**MAIN CONTRACTOR :**	Cache Valley Electric

Crew Start Time:	6:50	Crew Stop Time:	17:00	Tot Hrs mns:	10:10
FCR Start Time:	6:39	FCR Stop Time:	17:00	Tot Hrs mns:	10:21

Use military time format 00:00

WEATHER CONDITIONS: Sunny - 54 degrees in AM, 80 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set four monitors. CVE Fab Crew tied the rebar for the stems on the four N fdns and placed forms. CVE Electrical Crew (1 man) worked eight hours terminating cables in the switchgear from xfmr #2 . CVE Line Crew spent most of their day installing grounding along the east roadway and around xfmrs #1 and #2. Newman spent the day grading, compacting, and placing yard rock inside the cable trench area. They also excavated for the two cap banks and the getaway fdns in the 46 kV yard. Southwire/Wasatch completed the second splice (Phase A) for the Gadsby line. Main Wasatch crew will be gone for one week. CVE Line Crew = 6, CVE Fab Crew = 2, CVE Electrical Crew = 1, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Jeremy Gentry 0639
Dispatcher logout, name and time:	No call made

DISCREPANCIES:	IMMEDIATE CORRECTIVE ACTION TAKEN:
Determined that 3 layers of geotech wall won't bring the grade up to roadway elevation. Will be about 12" too low.	Talked to John Mancini and received direction to cap the geotech wall with 12" lift of ABC.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (3), forklift, 1 dumpster, office trailer, conex , exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex , water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	Reported by:	Time:

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild	**DATE :**	Thursday, May 10, 2012
PO & Work Order NO. :	3000078050 / 10035803	**MAIN CONTRACTOR :**	Cache Valley Electric

Crew Start Time:	6:55	**Crew Stop Time:**	17:25	**Tot Hrs mns:**	10:30
FCR Start Time:	6:42	**FCR Stop Time:**	17:45	**Tot Hrs mns:**	11:03

Use *military time* format *00:00*

WEATHER CONDITIONS: Sunny - 53 degrees in AM, 70 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set four monitors. CVE Fab Crew tied the rebar, completed forms, and set anchor bolts for the stems on the four N fdns. CVE Electrical Crew (1 man) worked ten hours terminating cables in xfmr #2 . CVE Line Crew spent most of their day installing grounding vaults, building ground mats and installing mats. Newman spent the day completing the grading above the geotech wall and stockpiling ABC and yard rock. Southwire/Wasatch completed the third splice (Phase C) for the Gadsby line. Wasatch placed conduit sleeves over the Gadsby cables. Southwire/Wasatch will have two people terminating at the steel stmcture on 100 South and two people terminating in the 138 kV yard. Main Wasatch crew will be gone for one week. CVE Line Crew = 5, CVE Fab Crew = 3, CVE Electrical Crew = 1, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Jeremy Gentry 0642
Dispatcher logout, name and time:	Gus Montanez 1745

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**
5/10 - Insufficient FTB coverage over the 138 KV duct bank	Contacted Roger Fuerst to see how he wants to address this issue.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (3), forklift, 1 dumpster, office trailer, conex , exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex , water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub - Rebuild	**DATE :**	Friday, May 11, 2012
PO & Work Order NO. :	3000078050 / 10035803	**MAIN CONTRACTOR :**	Cache Valley Electric

Crew Start Time:	6:50	**Crew Stop Time:**	16:00	**Tot Hrs mns:**	9:10
FCR Start Time:	6:42	**FCR Stop Time:**	16:19	**Tot Hrs mns:**	9:37

Use military time format 00:00

WEATHER CONDITIONS: Sunny - 53 degrees in AM, 73 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set four monitors. CVE Fab Crew completed the N fdns and forming and tying rebar for the breaker porches. They poured the N fdns and the breaker porches. CVE Electrical Crew worked on wiring for xfmr #2 and the west bus differential box as well as the Jordan circuit CCVTs . CVE Line Crew is working 4-10's this week so they are off today. Newman spread gravel along the south side of the south cable trench, the gravel on the north side of the north cable trench, and worked on the grade for the east roadway and the roadway between the switchgear and xfmr #1. Emerson came on site this morning but determined that they would return on Monday when more work was completed for them to test. Southwire/Wasatch is mobing into the substation and at the Gadsby termination pole to start the terminations. They got the three cables at each end prepped, heated and squared up. Main Wasatch crew will be gone until Monday, May 14. CVE Line Crew = 0, CVE Fab Crew = 6, CVE Electrical Crew = 3, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Jeremy Gentry 0642
Dispatcher logout, name and time:	Gus Montanez 1619

DISCREPANCIES:	**IMMEDIATE CORRECTIVE ACTION TAKEN:**
5/10 - Insufficient FTB coverage over the 138 KV duct bank	Contacted Roger Fuerst to see how he wants to address this issue.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (3), forklift, 1 dumpster, office trailer, conex , exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex , water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	**Reported by:**	**Time:**

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild **DATE :** Saturday, May 12, 2012

PO & Work Order NO. : 3000078050 / 10035803 **MAIN CONTRACTOR :** Cache Valley Electric

Crew Start Time:	7:00	Crew Stop Time:	12:15	Tot Hrs mns:	5:15
FCR Start Time:	6:46	FCR Stop Time:	12:30	Tot Hrs mns:	5:44

Use military time format 00:00

WEATHER CONDITIONS: Sunny -43 degrees in AM, 75 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R did not set up monitors today. CVE Fab Crew did not work today. CVE Electrical Crew did not work today. CVE Line Crew did not work today. Newman did not work today. Emerson did not work today. Southwire/Wasatch is working at both the substation and the Gadsby terminal pole. They prepped all six cable ends and are ready to install stress cones on Monday. Main Wasatch crew will be gone until Monday, May 14. CVE Line Crew = 0, CVE Fab Crew = 0, CVE Electrical Crew = 0, Newman = 0, R&R = 0, Wlding = .

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	Kelly Astill 0646
Dispatcher logout, name and time:	Paul Farr 1235

DISCREPANCIES:	IMMEDIATE CORRECTIVE ACTION TAKEN:
5/10 - Insufficient FTB coverage over the 138 KV duct bank	Contacted Roger Fuerst to see how he wants to address this issue.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (3), forklift, 1 dumpster, office trailer, conex , exclusion zone conex, (2), tool trailer, crew truck. CVE Line Crew: Pickup (2), JLG (2), tool trailer. Newman: trachoe (2), loader, bobcat, mini-ex , water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	Reported by:	Time:

Rocky Mountain Power

A division of PacifiCorp

Russ Johnson
Field Construction Representative

REI LAB Reservoirs Environmentol, Inc.

May 9, 2012

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 235354-1
Project # / P.O. #	None Given
Project Description:	3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 235354-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101898-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 235354-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Sub - RMP
Date Samples Received:	May 8, 2012
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	May 8, 2012

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm^2)	(L)		(s/cc)	(s/cc)	(s/mm^2)
3W-050712 W	EM 880308	0.0900	929	ND	0.0046	BAS	BAS
3W-050712 N	EM 880309	0.0900	929	ND	0.0046	BAS	BAS
3W-050712 E	EM 880310	0.0900	929	ND	0.0046	BAS	BAS
3W-050712 S	EM 880311	0.0900	931	ND	0.0046	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

DATA QA

Due Date: 5/9/12
Due Time: 9:20AM

RES 235354

Reservnirs Environmental, Inc.

8301 Logan St. Denver, CO 80216 • Ph: 303 864-1988 • Fax 303-477-3275 • Toll free 866 RESI-ENV
Pager: 303-569-2898

INVOICE TO: (IF DIFFERENT)

Company: R & R Environmental	Company:
Address: 47 W 9000 S #2 Sandy Ut. 84070	Address:
Project Number and/or P.O. #:	
Project Description/Location: 3rd West Sub-IRMP	

CONTACT INFORMATION:

Contact: Dave Baskelley	Contact:
Phone:	Phone:
Fax:	Fax:
Cell/pager: 801 541-1135	Cell/pager:
Final Data Deliverable Email Address: daver@rrenviro.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ___ RUSH (Same Day) X PRIORITY (Next Day) ___STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day
Organics ___ 24 hr. ___ 3 day ___ 5 Day

Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm

E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___2 Day ___3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day
Mold ___ RUSH ___24 Hr ___48 Hr ___ 5 Day ___5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EMI Number (Laboratory Use Only)
1 3W-050712 W		X															929	A		5/07/12		88038
2 3W-050712 N		↓															929	↓		↓		9
3 3W-050712 E																	929					10
4 3W-050712 S																	931					11
5																						
6																						
7																						
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

LAB NOTES:

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [signature] Fed Ex Date/Time: 5/07/12

Laboratory Use Only
Received By: [signature] Date/Time: 5-8-12 9:20am Carrier: FedEx

Sample Condition: On Ice Yes / No; Sealed Yes / No; Intact (Yes) / No
Temp. (°) ____

Results:	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials
	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

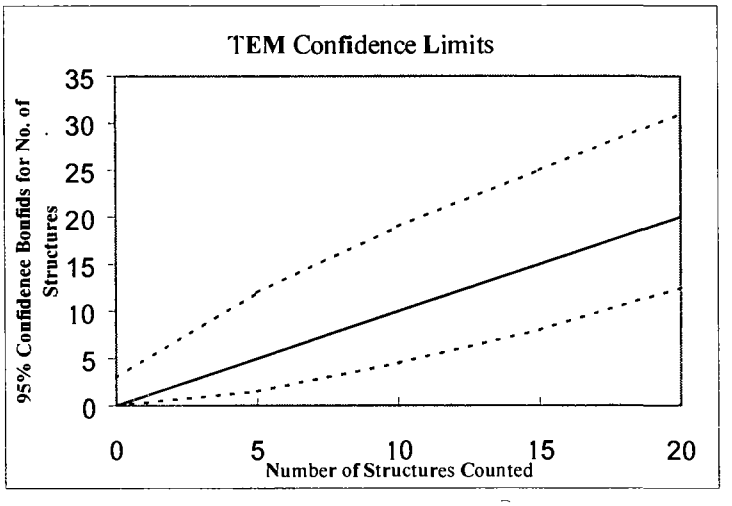
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr	Paul D. LoScalzo
Nathan DelHierro	Mark Steiner
Angela Heitger	Norberto Zimbleman
Jonathan Bernard	Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	925
Date received by lab	5/8/12
Lab Job Number:	235354
Lab Sample Number:	880308

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	[illegible]
Analysis date	5/8/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F2-4	ND												
	E2-4	ND			Prep A 702 interf 5% debris									
	C2-4	ND			Prep B-A			Tremolite	5	7/8/12				
	B2-4	ND												
B	K4-1	ND												
	K4-1	ND												
	H4-1	ND												
	G4-1	ND												
	F4-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	~~20KX~~ 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	5/8/12
Lab Job Number:	235354
Lab Sample Number:	880309

f-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	[illegible]
Analysis date	5/8/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	RS-4	ND												
	HS-4	ND			Prep A for inadequate dust									
	QS-4	ND			Prep Blank [illegible] 5/9/12									
	FS-4	ND												
B	HS-3	ND												
	QS-3	ND												
	FS-3	ND												
	ES-3	ND												
	CS-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Rasarvoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REi
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid openina area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	5/8/12
Lab Job Number:	235354
Lab Sample Number:	880310

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	[illegible]
Analysis date	5/8/12
Method (O=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage locabon	Month Analyzed
Scope Afignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures Primary	No. of Structures Total	Dimensions Length	Dimensions Width	Identification	Mineral Class Amphibole	C	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H5-3	ND												
	G5-3	ND			Prep A ~80% intact 5% debris									
	F5-3	ND			Prep B-A [illegible] 5/8/12									
	E5-3	ND												
	C5-3	ND												
B	F2-3	ND												
	E2-3	ND												
	C2-3	ND												
	C3-6	ND												

LA = Libby-type amphibole   OA = Other (non-Libby type) amphibole   C = Chrysotile   NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instmment	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	~~20KX~~ 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air voluine (L) or dust area (cm2)	931
Date received by lab	5/8/12
Lab Job Number:	235354
Lab Sample Number:	880311

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	[illegible]
Analysis date	5/8/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K3-4	ND												
	H3-4	ND												
	G3-4	ND			Area A ~90% intact 5-10% debris									
	F3-4	ND			Area B ~1/4 [illegible] 5/8/12									
	E3-4	ND												
B	E3-6	ND												
	C3-6	ND												
	B3-6	ND												
	A3-6	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm}^2 = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

REI LAB Reservoirs Environmentol, Inc.

May 10, 2012

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 235424-1
Project # / P.O. #	None Given
Project Description:	3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory Is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 235424-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 235424-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Sub - RMP
Date Samples Received:	May 9, 2012
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	May 10, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm^2)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm^2)
3W-050812 W	EM 880453	0.0900	923	ND	0.0046	BAS	BAS
3W-0S0812 N	EM 880454	0.0900	923	ND	0.0046	BAS	BAS
3W-0S0812 E	EM 880455	0.1000	767	ND	0.0050	BAS	BAS
3W-050812 S	EM 880456	0.0900	923	ND	0.0046	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

Digitally signed by Gina Vetrano
Date: 2012.05.10 14:26:25 -06'00'

DATA QA

RES 235424

Due Date: 5/10/12
Due Time: AM

Reservoirs Environmental, Inc.

5801 Logan St Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free :866 RESI-ENV
Pager : 303-500-2098

Job #_____
Page 1 of _____

INVOICE TO: (IF DIFFERENT)

Company: R & R Environmental	Company:
Address: 47 W 90003 #2 Sandy Ut. 84070	Address:
Project Number and/or P.O. #:	
Project Description/Location: 3W West Sub - RMP	

CONTACT INFORMATION:

Contact: Dave Rasbelley	Contact:
Phone:	Phone:
Fax:	Fax:
Cell/pager: 801 541-1035	Cell/pager
Final Data Deliverable Email Address: dave@rrenviro.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ___ RUSH (Same Day) X PRIORITY (Next Day) ___STANDARD
(Rush PCM = 2hr, TEM = 8hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 9am - 5pm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day
Organics ___ 24 hr. ___ 5 day ___ 5 Day

Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm

E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___2 Day ___3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day
Mold ___ RUSH ___24 Hr ___48 Hr ___3 Day ___5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS

Client sample ID number (Sample ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOOY: Salmonella: +/-	E.coli O157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1 3W-050812W		X															923	A		5/08/12		880453
2 3W-050812N		↓															923			↓		54
3 3W-050812E																	767					55
4 3W-050812S																	923					56
5																						
6																						
7																						
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = OW	Waste Water = WW
O = Other	

ASTM E1792 approved wipe media only

LAB NOTES:

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: _____ Fed Ex Date/Time: 5/08/12

Laboratory Use Only
Received By: _____ Date/Time: 5/9/12 9:20Am Carrier: Fedex 7983 6591 0648

Sample Condition: On Ice Yes / No (Yes) / No Sealed (Yes) / No Intact Yes / No
Temp. (F°): NA

Results:

Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials
							5/10/12	2254	
Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

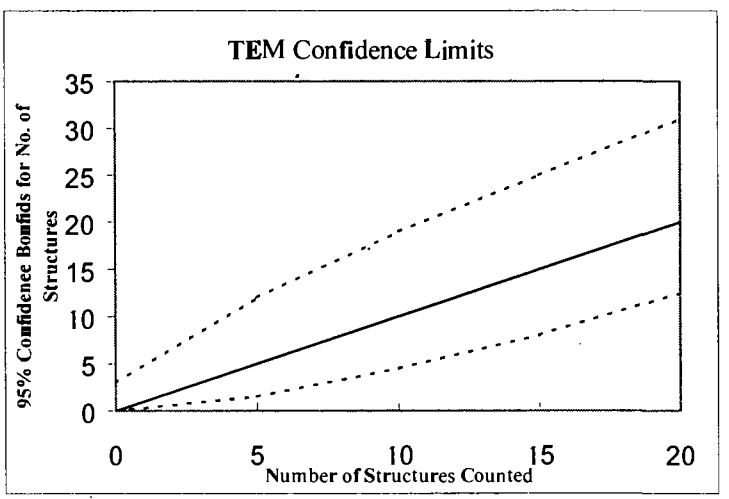
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard
Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (II) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	923
Date received by lab	5/9/12
Lab Job Number:	235424
Lab Sample Number:	580453

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/10/12
Method (D=Direct, I=Indirect, IA=Indirect, asbed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Stmctures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primaty	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H2-6	ND												
	G2-6	ND			Prep	A	80% int 5% debris							
	F2-6	ND			Prep	B	90% int 5% debris							
	E2-6	ND												
	C2-6	ND					5/10/12							
B	H5-1	ND												
	G5-1	ND												
	F5-1	ND												
	E5-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid openino area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	923
Date received by lab	5/9/12
Lab Job Number:	235424
Leb Sample Number:	580454

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to Secondary filter (ml)	

Analyzed by	JB
Analysis date	5/10/12
Melhod (D=Direcl, I=Indlrect, IA=Indlrect, ashed)	D
Counting nlles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F3-1	ND												
	E3-1	ND			Prep A		80% cement			5% debris				
	C3-1	ND			Prep B		90% cement			5% debris				
	B3-1	ND												
	B4-4	ND							5/10/12					
B	F3-1	ND												
	H3-1	ND												
	G3-1	ND												
	E3-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (II) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	767
Date received by lab	5/9/12
Lab Job Number:	235424
Lab Sample Number:	580455

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/10/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G4-4	ND												
	F4-4	ND			Prep A		90% chrut 5% actin's							
	E4-4	ND			Prep B		95% chrut 5% actinolite's							
	C4-4	ND												
	B4-4	ND					JB	5/10/12						
B	H2-3	ND												
	G2-3	ND												
	F2-3	ND												
	E2-3	ND												
	C2-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Stmcture Count

Laboratory name:	REI
Instmment	JEOL 100 CX (TEM) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid openina area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	923
Date received by lab	5/9/12
Lab Job Number:	235424
Lab Sample Number:	580456

F-Factor Calculation (indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volums (ml)	
Voluma Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/10/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AH
Grid storaae location	Month Analyzed
Scope Alignment	Oate Analyzed

Grid	Grid Opening	Stmcture Type	No. of Stmctures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Prenary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-6	ND												
	F3-6	ND					Pmp A	80%	content		5-10% debris			
	E3-6	ND					Pmp B	80%	content		5-10% debris			
	C3-6	ND												
	C4-6	ND												
B	H4-1	ND							5/10/12					
	G4-1	ND												
	F4-1	ND												
	E4-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm2} = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

File: Shared on server T/Offforms.sg/AHERA Procedures
Revised: 02/27/02

REI LAB Reservoirs Environmentoi, Inc.

May 11, 2012

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 235505-1
Project # / P.O. #	None Given
Project Description:	3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environfnental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 235505-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 235505-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Sub - RMP
Date Samples Received:	May 10, 2012
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	May 11, 2012

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm^2)	(L)		(s/cc)	(s/cc)	(s/mm^2)
3W-050912 W	EM 880585	0.0900	936	ND	0.0046	BAS	BAS
3W-050912 N	EM 880586	0.0900	936	ND	0.0046	BAS	BAS
3W-050912 E	EM 880587	0.0900	936	ND	0.0046	BAS	BAS
3W-050912 S	EM 880588	0.0900	930	ND	0.0046	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

Digitally signed by Elaine Eiserman
DN: CN = Elaine Eiserman, C = US, O = Reservoirs Environmental, Inc.
Date: 2012.05.11 12:59:57 -06'00'

DATA QA

Due Date: 5-11-12
Due Time: 9a

REI LAB **Reservnins Environmental, inc.**

5801 Logan St. Osnver, CO 80216 • Ph; 303 964-1988 • Fax 303-477-427S • Toll Freo :S56 RESI-ENV

Pagar : 303-509-2098

RES 235505

INVOICE TO: (IF DIFFERENT)

Company: R&L Environmental	Company:
Address: 47W 9000S #7 Sandy Ut. 84070	Address:
Project Numbor and/or P.O. #:	
Project Description/Locodon: 3rd West Sub - RFP?	

CONTACT INFORMATION:

Contact: Dave Roskelley	Contact:
Phooo:	Phone:
Fox:	Fax:
Coll/pagor: 801 541-0035	Coll/pagor:
Final Data Deliversolo Email Address: daveerrenviro.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm

PLM / PCM / TEM ___ RUSH (Same Day) X PRIORITY (Next Day) ___STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: Sam - Spm

Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day
Organics ___ 24 hr. ___ 3 day ___5 Day

Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm

E.coli 0157:H7, Colifbrms, S.aureus ___ 24 hr. ___2 Day ___3-5 Day
Salmonella, Usteria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day
Mold ___ RUSH ___24 Hr ___48 Hr ___3 Day ___5 Day

Turnaround timos establish n laboratory priority. subject to laboratory volumo and aro not guarantcod. Additional looa apply for afterbours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS

Client sample ID number (Samplo ID's must be unique)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	MICROBIOLOGY: Salmonella: +/-	E.coli 0157:H7: +/-	Listeria: +/-	Aerobic Plate Count: +/- or Quantification	E.coli: +/- or Quantification	Coliforms: +/- or Quantification	S.aureus: +/- or Quantification	Y & M: +/- or Quantification	Mold: +/-, Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Samplo Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Uso Only)
1 3W-050912W		X															936	A		5/09/12		850585
2 3W-050912N		↓															936	↓		↓		56
3 3W-050912E																	936					57
4 3W-050912S																	930					58
5																						
6																						
7																						
8																						
9																						
10																						

VALID MATRIX CODES

Air = A	Bulk = B
Dust = D	Paint = P
Soil = S	Wipe = W
Swab = SW	F = Food
Drinking Water = DW	Waste Water = WW
O = Other	

ASTM E1792 approved wipo modia only

LAB NOTES:

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information recohrod and will not bo responsible for errors or omissions in calculations resulting from tho inaccuracy of original data. By signing client/company ropresontativa agroes that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical servicea agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [signature] FedEx Date/Time: 5/09/12

Laboratory Use Only
Received By: [signature] Date/Time: 5-10-12 Carrier FedEx

Sample Condition: On Ice Yes / No Sealed Yes / No ~~Intact~~ (Yes) / No
Temp. (F°) ____

Results:												
	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Timo	Initials
	Contact	Phone Email Fax	Oate	Time	Initials	Contact	Phone Email Fax	Oate	Time	Initials

7935 4937 7447

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

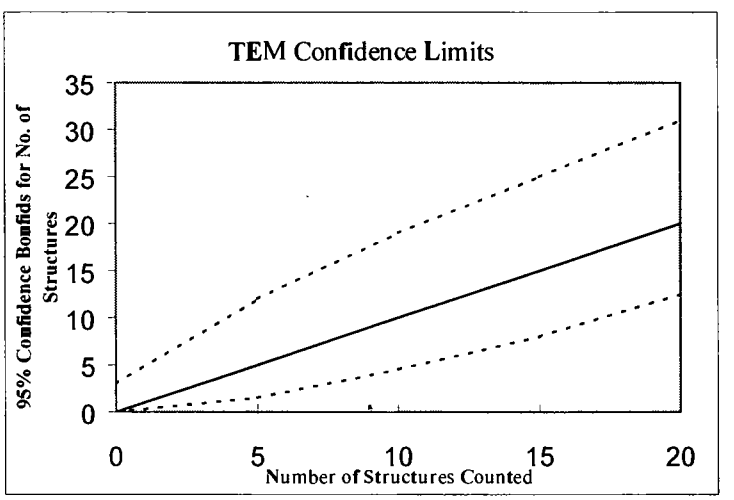
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr	Paul D. LoScalzo
Nathan DelHierro	Mark Steiner
Angela Heitger	Norberto Zimbleman
Jonathan Bernard	Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	936
Oate received by lab	5/10/12
Lab Job Nuinber:	235505
Lab Sample Number:	850585

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHera
Grid storaae location	Month Analyzed
Scope Allgnment	Oate Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	E3-1	ND												
	C3-4	ND												
	C3-1	ND			Preps A+B		~50% content			3-5% debris				
	B3-4	ND												
	F3-4	ND						JB	5/11/12					
B	G2-4	ND												
	G2-1	ND												
	E1-6	ND												
	E1-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysofile NAM = Non-asbestos material

Reservoirs Envfronmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Oust):	A
Air volume (L) or dust area (cm2)	936
Date received by lab	5/10/12
Lab Job Number:	235505
Lab Sample Number:	880586

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alena
Grid storage location	Month Analyzed
Scope Alignment	Dale Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H3-1	ND												
	G3-1	ND			Pop A		80% tant		3-5% debris					
	F3-1	ND			Pop B		80% tant		3-5% debris					
	E3-1	ND												
	C3-1	ND					JB 5/11/12							
B	H2-3	ND												
	G2-3	ND												
	F2-3	ND												
	E2-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environniental, Inc.
TEM Asbestos Strueture Count

Laboratory name:	REI
Instrument	JEOL 100 CX (II) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid openina area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	936
Date received by lab	5/10/12
Lab Job Number:	235505
Lab Sample Number:	880587

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	I/D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G4-1	ND												
	F4-1	ND												
	E4-4	ND			Preps A+B			~80% intact			7-10% debris			
	C4-4	ND												
	B4-4	ND						JB	5/11/12					
B	H2-3	ND												
	G2-3	ND												
	F2-3	ND												
	E2-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/(N) S
Voltage (KV)	100 KV
Magnification	(20KX) · 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	930
Date received by lab	5/10/12
Lab Job Number:	235505
Lab Sample Number:	880588

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-4	ND												
	F3-4	ND												
	E3-4	ND			Preps A&B ~80% intact 5-7% debris									
	C3-4	ND												
	E4-1	ND						JB		5/11/12				
B	H3-4	ND												
	G3-4	ND												
	F3-4	ND												
	E3-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transtnission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm2} = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

REI LAB Reservoirs Environmentol, Inc.

May 14, 2012

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 235584-1
Project # / P.O. #	None Given
Project Description:	3rd West Sub - RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 235584-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 235584-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Sub - RMP
Date Samples Received:	May 11, 2012
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	May 11, 2012

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm^2)	(L)		(s/cc)	(s/cc)	(s/mm^2)
3W-051012 W	EM 880786	0.0900	893	ND	0.0048	BAS	BAS
3W-051012 N	EM 880787	0.0900	893	ND	0.0048	BAS	BAS
3W-051012 E	EM 880788	0.1000	660	ND	0.0058	BAS	BAS
3W-051012 S	EM 880789	0.0900	893	ND	0.0048	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

Digitally signed by Gina Vetrano
Date: 2012.08.14 08:12:58 -08'00'

DATA QA

Due Date: 5-12-12
Due Time: 9am

RES 235584

REI LAB Reservoirs Environmental, Inc.

5801 Logan St. Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free :866 RESI-ENV
Pager : 303-509-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT) | CONTACT INFORMATION:

Company: RJR Environmental	Company:	Contact: Dave Roskelley	Contact:
Address: 47 W. 9000 S. #2	Address:	Phone:	Phone:
Sandy Ut. 84070		Fax:	Fax:
		Cell/pager: 801 541-1035	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address: dave@rrenviro.com	
Project Description/Location: 3rd West Sub - RMP			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm
PLM / PCM / (TEM circled) ___ RUSH (Same Day) X PRIORITY (Next Day) ___ STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm
Metal(s) / Dust ___ RUSH ___ 24 hr. ___ 3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___ 10 day
Organics ___ 24 hr. ___ 3 day ___ 5 Day
Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm
E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___ 2 Day ___ 3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___ 3-5 Day
Mold ___ RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day ___ 5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS: PLM - Short report, Long report, Point Count; TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps; PCM - 7400A, 7400B, OSHA; DUST - Total, Respirable; METALS - Analyte(s), RCRA 8, TCLP, Welding Fume, Metals Scan; ORGANICS - METH; MICROBIOLOGY: Salmonella: +/-; E.coli O157:H7: +/-; Listeria: +/-; Aerobic Plate Count: +/- or Quantification; E.coli: +/- or Quantification; Coliforms: +/- or Quantification; S.aureus: +/- or Quantification; Y & M: +/- or Quantification; Mold: +/-, Identification, Quantification; SAMPLER'S INITIALS OR OTHER NOTES

VALID MATRIX CODES: Air = A, Bulk = B, Dust = D, Paint = P, Soil = S, Wipe = W, Swab = SW, F = Food, Drinking Water = DW, Waste Water = WW, O = Other
ASTM E1792 approved wipe media only

LAB NOTES: 5-4-12

#	Client sample ID number (Sample ID's must be unique)	TEM	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1	3W-051012W	X	893	A		5/10/12		880786
2	3W-051012 N	↓	893	↓		↓		87
3	3W-051012 E	↓	660	↓		↓		88
4	3W-051012 S	↓	893	↓		↓		89
5								
6								
7								
8								
9								
10								

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [signature] Fed-Ex Date/Time: 5/10/12
Laboratory Use Only
Received By: [signature] Date/Time: 5-11-12 9a Carrier: Fed Ex

Sample Condition: On Ice Yes / No; Sealed Yes / No; Intact Yes / No (Yes circled)
Temp. (F°) ______

Results: Contact Dave (Phone circled) Phone Email Fax Date 5/12 Time 11a Initials [initials] | Contact Phone (Email circled) Email Fax Date 5-4-12 Time [illegible] Initials [initials]
Contact Phone Email Fax Date Time Initials | Contact Phone Email Fax Date Time Initials

FedEx: 7935 4939 6969

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
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ND = no structures detected
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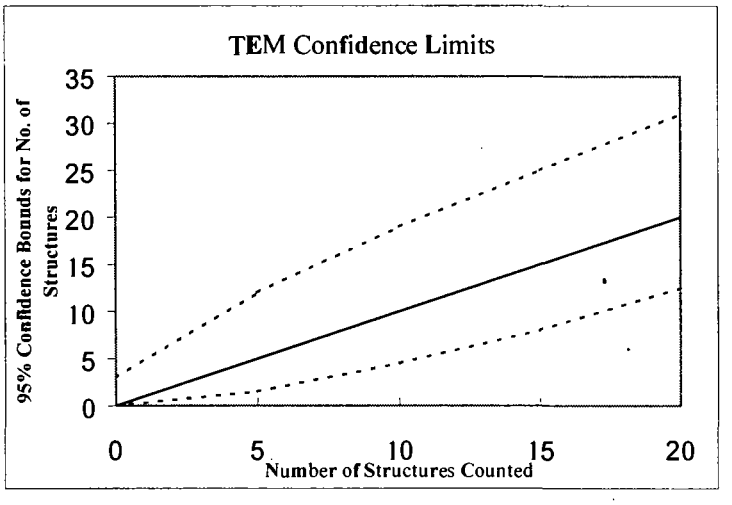
Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr	Paul D. LoScalzo
Nathan DelHierro	Mark Steiner
Angela Heitger	Norberto Zimbleman
Jonathan Bernard	Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	893
Date received by lab	5/11/12
Lab Job Number:	235584
Lab Sample Number:	880786

F-Factor Calculation (indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	[signature]
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-1	ND												
	F3-1	ND			Prep A		~80% intact	5% debris						
	E3-1	ND			Prep B		80% intact	5% debris			[initials] 5/11/12			
	F3-3	ND												
	E3-3	ND												
B	F5-4	ND												
	E5-4	ND												
	C5-4	ND												
	B5-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltaae (KV)	100 KV
Magnification	(20KX) 10KX
Grid openina area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary lilter area (mm2)	385
Secondary Filter Area (mm2)	
OA Type	

Client :	R+R
Samole Tvoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	893
Date received bv lab	5/11/12
Lab Job Number:	235584
Lab Sample Nuriber:	880787

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filtet used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storaae location	Month Analyzed
Scope Alignmenl	Oate Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Oimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Totai	Length	Width		Amohiboie	C	NAM		Sketch	Photo	EDS
A	H4-3	ND												
	G4-3	ND												
	F4-3	ND			Prep A 150% contact 52 dubin									
	E4-3	ND			Prep B + A Staff 5/11/12									
	E5-3	ND												
B	F4-6	ND												
	E4-6	ND												
	C4-6	ND												
	C4-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltaae (KV)	100 KV
Magnification	(20KX) 10KX
Grid openino area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Tvoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	660
Date received by lab	5/11/12
Lab Job Number:	235584
Lab Sample Nuniber:	880788

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JK
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storaae tocation	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amohiboie	C	NAM		Sketch	Photo	EDS
A	E2-3	ND												
	C2-3	ND			Prep A 70% insuca 5-10% debris									
	G4-6	ND			Prep B MA Type 5/11/12									
	F4-6	ND												
	E4-6	ND												
B	K4-3	ND												
	H4-3	ND												
	G4-3	ND												
	H4-1	ND												
	G4-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Maanification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	893
Date received by lab	5/11/12
Lab Job Number:	235584
Lab Sample Nuitiber:	880789

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	[illegible]
Analysis date	5/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Lenath	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L4-6	ND												
	K4-6	ND			Prep A 80% intact w/ debris									
	H4-6	ND			Prep B ~ A									
	G4-6	ND												
	F4-6	ND												
B	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	C3-1	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotiie asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confinnation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50^{th} structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, } mm^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{i}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area } (mm^2)}{\text{Average GO area } (mm^2)} \times \frac{1L}{1000cc}$$

$$\text{Filter loading, s/mm2} = \frac{\#\text{ Asbestos structures}}{\text{Area Analyzed } (mm^2)}$$

GO = TEM grid opening

REI LAB Reservoirs Environmentol, Inc.

May 15, 2012

Laboratory Code:	RES
Subcontract Number:	NA
Laboratory Report:	RES 235688-1
Project # / P.O. #	None Given
Project Description:	3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. Is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient In both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated In the attached analysis table. The results have been submitted to your office.

RES 235688-1 is the job number assigned to this study. This report Is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described In this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage Is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:	RES 235688-1
Client:	R & R Environmental
Client Project Number / P.O.:	None Given
Client Project Description:	3rd West Sub - RMP
Date Samples Received:	May 14, 2012
Analysis Type:	TEM, AHERA
Turnaround:	24 Hour
Date Samples Analyzed:	May 15, 2012

Client ID Number	Lab ID Number	Area Analyzed (mm^2)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm^2)
3W-051112 W	EM 881036	0.0900	930	ND	0.0046	BAS	BAS
3W-051112 N	EM 881037	0.0900	930	ND	0.0046	BAS	BAS
3W-051112 E	EM 881038	0.0900	928	ND	0.0046	BAS	BAS
3W-051112 S	EM 881039	0.0900	928	ND	0.0046	BAS	BAS

NA = Not Analyzed
ND = None Detected
BAS = Below Analytical Sensitivity
Average Grid Opening in mm^2 = 0.010

Filter Material = Mixed Cellulose Ester
Filter Diameter = 25 mm
Effective Filter Area = 385 sq mm

DATA QA

Due Date: 5·15·12
Due Time: ——

Reservoirs Environmental, Inc. RES 235688

5801 Logan St Denver, CO 80216 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free :866 RESI-ENV
Pager : 303-509-2868

Company: R & R Environmental	INVOICE TO: (IF DIFFERENT) Company:	CONTACT INFORMATION: Contact: Dave Roskelley	Contact:
Address: 47 W 9000 S. #2	Address:	Phone:	Phone:
Sandy, Ut. 84070		Fax	Fax
		Cell/pager: 801 541-1055	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: 3rd West Sub-RAMP			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm
PLM / PCM / (TEM) ___ RUSH (Same Day) X PRIORITY (Next Day) ___STANDARD
(Rush PCM = 2hr, TEM = 6hr.)

CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm
Metal(s) / Dust ___ RUSH ___ 24 hr. ___3-5 Day
RCRA 8 / Metals & Welding Fume Scan / TCLP ___ RUSH ___ 5 day ___10 day
Organics ___ 24 hr. ___ 3 day ___5 Day
Prior notification is required for RUSH turnarounds.

MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm
E.coli O157:H7, Coliforms, S.aureus ___ 24 hr. ___2 Day ___3-5 Day
Salmonella, Listeria, E.coli, APC, Y & M ___ 48 Hr. ___3-5 Day
Mold ___ RUSH ___24 Hr___48 Hr___3 Day___5 Day

Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.

Special Instructions:

REQUESTED ANALYSIS: PLM - Short report, Long report, Point Count; TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps; PCM - 7400A, 7400B, OSHA; DUST - Total, Respirable; METALS - Analyte(s), RCRA 8, TCLP, Welding Fume, Metals Scan; ORGANICS - METH; MICROBIOLOGY: Salmonella +/-, E.coli O157:H7 +/-, Listeria +/-, Aerobic Plate Count +/- or Quantification, E.coli +/- or Quantification, Coliforms +/- or Quantification, S.aureus +/- or Quantification, Y & M +/- or Quantification, Mold +/-, Identification, Quantification; SAMPLER'S INITIALS OR OTHER NOTES

VALID MATRIX CODES: Air = A, Bulk = B, Dust = D, Paint = P, Soil = S, Wipe = W, Swab = SW, F = Food, Drinking Water = DW, Waste Water = WW, O = Other
ASTM E1792 approved wipe media only

LAB NOTES: [handwritten initials] 5/15/12

#	Client sample ID number (Sample ID's must be unique)	PLM	TEM	PCM	DUST	METALS	ORGANICS	MICROBIOLOGY	SAMPLER'S INITIALS OR OTHER NOTES	Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh/mm a/p	EM Number (Laboratory Use Only)
1	3W-051112W		X							930	A		5/11/12		881036
2	3W-051112N		↓							930	↓				37
3	3W-051112E		↓							928	↓				38
4	3W-051112S		↓							928	↓				39
5															
6															
7															
8															
9															
10															

Number of samples received: (4) (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [signature] 5/11/12 Fed Ex	Date/Time: 5/11/12		Sample Condition: On Ice Yes / No; Sealed Yes / No; Intact (Yes) / No
Laboratory Use Only Received By: [signature]	Date/Time: 5·14·12 940a	Carrier: FedEx	Temp. (F°) ______

Results:	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone (Email) Fax	Date 5/15/12	Time	Initials
	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials

7935 5931 5367

7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types
A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

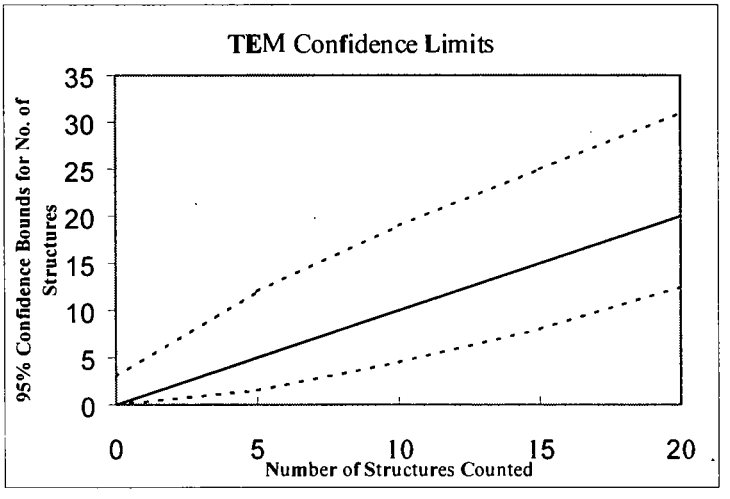
ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 micróns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr	Paul D. LoScalzo
Nathan DelHierro	Mark Steiner
Angela Heitger	Norberto Zimbleman
Jonathan Bernard	Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	930
Date received by lab	5/15/12
Lab Job Number:	235688
Lab Sample Number:	881036

F-Factor Calculation (Indirect Preps Only):

Fractian of primary filter usad	
Total Resuspension Volume (ml)	
Volums Applied to secondary filter (ml)	

Anatyzed by	AH
Analysis date	5/15/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storaae location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G3-6	ND												
	F3-6	ND												
	E3-6	ND			Pic A: 90% intact 5-7% debris									
	C3-6	ND			Pic B ~ Pic A									
	B3-6	ND												
B	H4-3	ND												
	G4-3	ND												
	F4-3	ND												
	E4-3	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos materiai

Reservoirs Environmantal, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	930
Date received by lab	5/15/12
Lab Job Number:	235688
Lab Sample Number:	881037

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	AH
Analysis date	5/14/12 AH
Method (D=Direct, I=indirect, IA=indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	65-6	ND												
	H5-6	ND												
	F5-6	ND			Prep A:	80%	intact		5-7%	debris				
	E5-6	ND			Prep B ~ Prep A									
	C5-6	ND												
B	F5-4	ND												
	E5-4	ND												
	C5-4	ND												
	B5-4	ND												

LA = Libby-type amphibole OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Raservoirs Environmental, Ine.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid openina area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	5/15/12
Lab Job Number:	235688
Lab Sample Number:	881038

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filtar used	
Totat Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/15/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahora
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

Grid	Grid Opening	Stnicture Type	No. of Stmctures		Oimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K4-1	ND			Pump A		80% intact			10-15% debris				
	H4-1	ND			Pump B		80% intact			10-15% debris				
	G4-1	ND												
	F4-1	ND												
	E4-1	ND						JB 5/15/12						
B	H2-3	ND												
	G2-3	ND												
	F2-3	ND												
	E2-3	ND												

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Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid openina area (mm2)	0.01
Scale: iL =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tvos	

Client :	R+R
Sample Tvoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	928
Date received by lab	5/15/12
Lab Job Number:	235688
Lab Sample Number:	881039

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	5/15/12
Method (D=Direcl, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storaae location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Stmctures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L4-4	ND												
	H4-4	ND			Prep A		90% tremolite		10-15% debris					
	K4-4	ND			Prep B		80% tremolite		10-15% debris					
	G4-4	ND												
	F4-4	ND						JB 5/15/12						
B	K3-3	ND												
	H3-3	ND												
	G3-3	ND												
	F3-3	ND												

LA = Libby-type amphiboie OA = Other (non-Libby type) amphibole C = Chrysotile NAM = Non-asbestos material

Analytical Procedures – AHERA

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For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm^2 (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

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Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm^2 clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \#\text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concenuration, s/cc} = \frac{\#\text{ Asbestos Structures}}{\#\text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm2} = \frac{\#\text{ Asbestos stmctures}}{\text{Area Analyzed (mm}^2)}$$

GO = TEM grid opening